Docket No.: 740819-1052

Application No.: 10/829,476

Page 2

**AMENDMENTS TO THE CLAIMS:** 

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A semiconductor device comprising:

a protective insulating film deposited on a semiconductor substrate having first

and second field-effect transistors formed thereon;

a capacitor composed of a capacitor lower electrode, a capacitor insulating

film made of an insulating metal oxide, and a capacitor upper electrode which are formed in

upwardly stacked relationship on the protective insulating film;

[wherein an edge portion of the capacitor upper electrode is formed onto the

protective insulating film;]

a first contact plug formed in the protective insulating film to provide a

[direct] connection between an impurity diffusion layer serving as a source or drain region of

the first field-effect transistor and the capacitor lower electrode;

a second contact plug formed in the protective insulating film to provide a

connection between an impurity diffusion layer serving as a source or drain region of the

second field-effect transistor and [the edge portion of] the capacitor upper electrode; and

a hydrogen barrier film entirely covering the capacitor upper electrode.

2. (Original) The semiconductor device of claim 1, wherein the capacitor

insulating film is formed conformally to the capacitor lower electrode, the semiconductor

device further comprising:

insulating sidewalls formed on respective side surfaces of the capacitor lower

12545493.1

Docket No.: 740819-1052

Application No.: 10/829,476

Page 3

electrode and the capacitor insulating film, wherein

the capacitor upper electrode is formed over the capacitor insulating film and the

sidewalls.

3. (Original) The semiconductor device of claim 2, wherein the sidewalls are

made of silicon oxide.

4. (Original) The semiconductor device of claim 1, wherein the capacitor

lower electrode includes a plurality of capacitor lower electrodes formed on the protective

insulating film, the semiconductor device further comprising:

an insulating film formed between the plurality of capacitor lower electrodes,

wherein

the capacitor insulating film is formed over the plurality of capacitor lower

electrodes and the insulating film.

5. (Original) The semiconductor device of claim 4, wherein the insulating

film is composed of silicon oxide.

6. (Original) The semiconductor device of claim 1, wherein each of the first

and second contact plugs is made of polysilicon or tungsten.

7. (Original) The semiconductor device of claim 1, wherein the capacitor

insulating film is made of a ferroelectric material having a bismuth layered perovskite

structure, lead zirconate titanate, barium strontium titanate, or tantalum pentaoxide.

12545493.1

Docket No.: 740819-1052 Application No.: 10/829,476

Page 4

8. (New) The semiconductor device of claim 1,

wherein the first contact plug includes materials different from materials

composing the capacitor lower electrode, and

the second contact plug includes materials different from materials composing the capacitor upper electrode.